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54. A transformed plant comprising the nucleic acid according to claim 47 or the genetic construct according to claim 51.
55. A method of producing a plant with increased GLA comprising transforming a plant cell with a nucleic acid according to claim 47 or the genetic construct according to claim 51 and regenerating it.

REMARKS

Claims 1-46 have been canceled without prejudice. Claims 47-55 have been added.

Claim 47 is directed to an isolated nucleic acid molecule encoding a delata-6 desaturase.

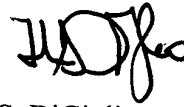
Claims 48-50 are drawn to nucleic acid molecules encoding a delata-6 desaturase from a plant, a bacterium, and a fungus, respectively. Support for added claims 47-50 is found throughout the specification, e.g., at page 7, line 7 through page 8, line 16.

Claims 51-55, all of which ultimately depend from claim 1, are drawn to a genetic construct, a vector, a cell, a transformed plant, and a method of producing a plant with increased GLA, respectively. The subject matter of claims 51-55 is fully supported by the instant disclosure, e.g., at pages 14-23.

Applicant respectfully submits that the foregoing amendments do not introduce new matter. Attached hereto is a marked-up version of the changes made to the specification and claims by the instant amendment. The attached page is captioned "Version with Markings to Show Changes Made."

It is firmly believed that the subject application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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Date: December 21, 2001

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please amend the paragraph beginning at page 1, line 2 as follows:

CROSS-REFERENCE TO RELATED APPLICATIONS

This is a continuation application of U.S. Serial No. 08/934,254 filed on September 19, 1997, which is a continuation-in-part of U.S. Serial No. 08/789,936 filed on January 28, 1997, now U.S. Patent No. 5,789,220, which is a continuation-in-part of U.S. Serial No. 08/307,382 filed on September 14, 1994, now U.S. Patent No. 5,552,306, which is a continuation of U.S. Serial No. 07/959,952 filed on October 13, 1992, abandoned, which is a continuation-in-part of U.S. Serial No. 817,919, filed on January 8, 1992, abandoned, which is a continuation-in-part application of U.S. Serial No. 774,475 filed on October 10, 1991, abandoned.

IN THE CLAIMS:

Please cancel claims 1-46 without prejudice.

Please add the following claims:

47. An isolated nucleic acid molecule encoding a delta-6 desaturase.
48. An isolated nucleic acid according to claim 47, wherein said isolated nucleic acid is a plant delta-6 desaturase.
49. An isolated nucleic acid according to claim 47, wherein said isolated nucleic acid is a bacterial delta-6 desaturase.
50. An isolated nucleic acid according to claim 47, wherein said isolated nucleic acid is a fungal delta-6 desaturase.

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51. A genetic construct comprising an isolated nucleic acid according to claim 47.

52. A vector comprising the genetic construct according to claim 51.

53. A cell comprising the vector according to claim 52.

54. A transformed plant comprising the nucleic acid according to claim 47 or the genetic construct according to claim 51.

55. A method of producing a plant with increased GLA comprising transforming a plant cell with a nucleic acid according to claim 47 or the genetic construct according to claim 51 and regenerating it.

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